2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28



Maiden at Puberty with Instructors:— a semi-circle of stars with one bright one in the middle; the Pestle: — two stars horizontal, two vertical; Flock of quail: — a cluster of small stars; the North Star, called the Unmoving Star: — it is the stopper for the hole in the sky through which Buzzard took refuge in the flood.

Papago youth were taught the tribal traditions by listening to the official narrators who told them as often as asked during the winter months, but always during the "four days" of the winter solstice. Beside this ancient history the record of recent events was kept on a calendar stick similar to that recorded for the Pima.[1]

The first entry is in "the year the world went wrong": 1839 while the facturis of Sonora were at war and the southern Papago settlements were broken up. The man who began it was a boy at the time and was "startled" by the catastrophe; so cut a notch in a stick to remember it. However, the earliest Pima stick known had been begun in 1833 so that he may have had model to suggest the idea. The Papago stick was kept first at Standing Rock, then at San Xavier, and there were, besides, one at Anegam and possibly others. Keeping a stick was entirely a personal venture, undertaken by anyone who had enterprise and memory for the task. The keeper stored it in his own house and passed it down to any male descendant capable of memorizing its record.

The San Xavier calendar stick is a length of cactus rib, six feet long and with notches cut on its flat side about an inch apart. Each notch represents a year and is cut after the liquor ceremony which inaugurates the rainy season and the Papago year. In the space between the notches, the keeper of the stick marks any crude device which occurs to him as a means of memorizing the year's events. The symbols are roughly incised and colored with red and blue, made from red clay and greasewood soot. A few simple signs have been worked out, such as a puncture in the middle of the space, representing the quadrennial harvest ceremony and a scratch at the side, meaning a death. Otherwise the symbols are the personal invention of the maker and his successor must learn them by heart.

The San Xavier stick was, until twenty years ago, at Standing Rock in the keeping of the man who began it. He frequently recited its record and some of the older men learned it. At his death, his widow broke the stick and threw it away as a ceremonial act, but two San Xavier men rescued the pieces and copied them. The present custodian is the son-in-law of one of these two, the son having been unable to memorize the symbols. The custodian, in

[1] Russell, pp. 34—36.

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NV28
Pima NV29



### *Dyeing*

Pi Pa 386 824 Cotton was dyed buff by dipping in a dark buff ocher high in ferric oxide, but this was used only for the selvage thread. Cotton fiber dipped into a decoction made from the roots of curly dock *(Rumex crispus)*, an introduced species, as well as other species of this genus, took on a yellow color, and these roots were said to yield a darker color when the plant was in flower. Informants said roots of the native *cañaigre (Rumex hymenosepalus)*, from which all dirt had been removed, were crushed, then boiled to yield a yellowish dye solution for cotton. Fresh mesquite gum was boiled with this dye to make it fast.

## Gourds

### *Time and Method of Harvest and Storage*

Pi Pa [462] 249 Pima and Papago made a single planting of gourds. Ordinarily it was man's task to plant, but woman's to cultivate, carry water for them if necessary and harvest gourds when ripe, although men might assist in any of these stages. This single planting was made by both peoples—by the Pima in late March or early April, the Papago in July. A little more than three months was required for them to ripen.

Gourds were all gathered at once rather than progressively, and this while the plants were still green. Women gathered and carried them to the dwelling in a burden basket or cloth, cutting each one off the vine with a sharp stone. Care had to be exercised in handling them until dried lest they become bruised. When harvested, they were laid away to dry throughly before being prepared for use, usually being placed in a pile and covered with weeds or grass. They were selected by shape according to the purpose for which they were to be utilized.

There was no selection of seed from specific shapes of gourd to propagate particular types, although formerly it was customary to bind a piece of bark or cloth around them while growing in order to secure certain shapes.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29



## SMOKING

Pima usually carried tobacco in a special buckskin or foxskin pouch, decorated with sun symbols in bright colors and rattles, sometimes fringed, and closed with a flap folding over the top or occasionally with a drawstring. The simplest Papago pouches were a circular piece of dressed buckskin with a fringe around the entire edge, and tied up with a thong. Others were made of rabbit, or sometimes fox, skin with the fur left on. All present-day Papago pouches are of buckskin, dyed red with the root of *Krameria glandulosa*. They are made of two semi-circular pieces sewed together with fringe around the seam and a flap fastened by a knot or thong serving as a button.[6]

Papago and Pima had no true pipes, a fact mentioned by Lloyd[8] in 1911. Cigarettes for smoking tobacco were made usually from tubular stem sections of pigweed, or *bledo (Amaranthus Palmeri)*. These were from one-fourth to nearly an inch across, and six to eight inches long, cut when the plants were mature, dried and the pith bored out. After coating with a layer of gummy secretion from the mesquite tree, they were ready for use. A Papago informant said the *Amaranthus* stems were being used for smoking when he was a boy, but that reed grass *(Phragmites communis)* stems had been utilized at an earlier time and had fallen into disuse due to scarcity and consequent difficulty in finding them. This reed grass does not occur in southern Arizona (except along the Colorado), but is found along streams in Apache, Navaho and Coconino counties.[9] Russell[7] states that it was formerly common along the Gila. Rolled cigarettes, made by wrapping tobacco in inner corn husks, seem to have been a later development among both peoples. Any special gathering for the good of the tribe or ceremonial occasion demanded

[6] Castetter and Underhill, *Ethnobiology of the Papago Indians*, p. 50.
[8] Lloyd, *Au-au-tam Indian Nights*, p. 89.
[9] J. J. Thornber, Personal correspondence, Feb. 13, 1940.
[7] Russell, *op. cit.*, p. 134.

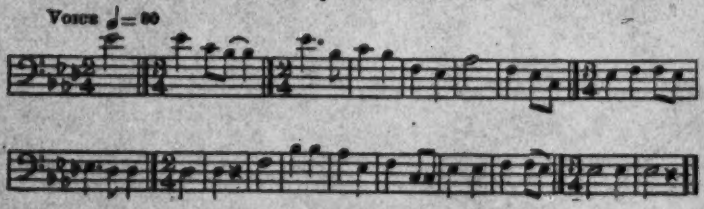
6: Densmore E-5 (1920) 1929NU28 Papago NU28



X 533 The following song was sung during the rain divination:

No. 108. Song During Rain Divination

(Catalogue No. 1032)

Recorded by JOSE HENDRICKS

TRANSLATION

The eagle wing, under that I sat with the tiswin,
I drank that and I am well drunk.
The water that gathered on the blue hawk feathers at the end of the vasi,
I drank of that and was staggered.

*Analysis.*—This song is characterized by the frequency of the fourth which constitutes 7 of the 25 progressions. Certain simple measure divisions occur more than once, but these short phrases are so closely intertwined that it is difficult to separate one and designate it as a rhythmic unit. The emphasis upon D flat occurring midway through the song is unusual and interesting.

796 273 [386] The people assembled to the number of 100 or more for the drinking of the tiswin. All were in gala attire but few were painted except those who were to serve the tiswin. In old times there was a special paint for use at this festival, made of white clay and a soft black mud ground together. The wine was served as soon as it was ready, which frequently was about 9 o'clock in the morning.

796 X 533 273 The circle of people were seated at the east of the lodge, opposite the door, and there was a fire in the center of the circle. One singer sat at each of the cardinal points, and there were three singers between each of these singers. Those who were seated at the cardinal points were the leaders and had their faces painted half white and half red. They were painted in pairs, the man at the north having the left half of his face painted white, and the man at the south having the right side of his face white, while the man at the east had his left cheek, and the man at the west had his right cheek white.

796 273 At the east a medicine man sat at the left of the singer and at the west a medicine man sat at the right of the singer. Each of the four men appointed to distribute the wine carried a basket filled with tiswin. (Pl. 10, *b*.) Two of these men were stationed at the eastern part of the circle and two at the western. The two at the east set their baskets in front of the singer at the east, and those at the west

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28



796 lengthwise, while his legs are daubed in spots, the color
301 being afterward allowed to wear off. At the feast, the
536 numerous clowns perform pranks everywhere; they visit
796 the houses, offer food, and shoot at men disguised as
536 deer. During the dancing they keep in the middle of the dancing place. They neither sing nor talk, though they may do so if requested. If a clown breathes on a [765] sick man, the latter gets well. The mask when not used is kept in the house of the owner, usually in a covered earthen-ware jar. The dignity of the office, which does not imply the necessity of being a medicine-man, is confined to certain families, the father deciding which of his sons is to be the next clown.

796 On the wall in my lodging-room there was hanging
532 a different kind of mask, neatly made from a gourd, and painted. It is worn by a singer at the same great feast. I also secured this, and during the time spent at Santa Rosa valley I was fortunate enough to make quite a collection of such interesting objects. There are three sections of colors on the singers' masks symbolizing clouds of similar hues. The upper part is painted with red [386] ochre; then comes a black band which is produced by a mixture of sap from the mezquite and oxide of iron; the white band is made with chalk. The zigzags of the red section symbolize clouds, the dots are grains of corn. The designs on the white section denote clouds and light-
796 ning. The singers (*wiinim*) have the same kind of rat-
534 tles as the clowns, consisting of a number of the small bags spun by an insect (*attacus orisaba*), with a pebble inside of each, and attached to a band around the ankle.

9: O'Neale & Dolores E, 1-4 (no date) 1943
NU28 Papago NU28



colors with their familiar names was facilitated by the use of colored papers.[1] Translations of most of the native words require the qualifying adverbs "almost" or "very", or the phrase "very much." The Papago prefixes *cak-* and *sik-* indicate a relationship between the hue determined upon to represent the color designation and similar colors which are compared to it. Theoretically, these latter belong to the same color group, i.e., they warrant the use of the same color designation. Judging from the evidence gathered, there is no implied differentiation in the term "almost" between a degree of relationship based upon value and one based upon purity. For example, *oamk* is yellow, and *cakseamk* is almost yellow, but whether the latter is almost as dark as the color determined upon as *oamk*, or almost as full strength (pure) as *oamk*, is neither implied by the adverb, nor shown by the several colored papers chosen to identify the tints to which *cakseamk* was applicable (chart 1). Some of these tints were almost pure light yellows, and some were dull light yellows. They were all, however, high on the value scale. By contrast with commercial dyes natural dyes are usually more or less grayed or dull, yet there are appreciable differences in brightness among them.

But although the word *cakseamk* may be applied to any one of several light tints of yellow, pure or dull, *siksoamk*, very yellow, indicates more definitely a relationship involving brightness or purity of color as well as value. The choices of colored papers identifying "very" yellow, "very" green, etc., proved this. Dolores' remembered reactions connected with the first purchased dress materials to appear on the Reservation are additional evidence.

Really bright colors were unknown among the Papago. Color mixtures are still used just as made, without attempts to modify by blending two or more together. It is true some colors do change while undergoing various treatments, as for example, the yellow of buckskin, which may become reddish during the tanning processes, but the change is due to the condition of the materials used rather than to intentions. The dyes and paints used by the women basket makers and potters are few in number and without strong contrasts. Even accidental color arrangements can hardly escape being harmonious. Pottery has black, or black and red patterns, on natural buff-colored clay. The question of which colors should be used or where they should be distributed could never have been very insistent.

The first European costumes to be adopted by the Papago women seem to have been conservative. They had full skirts with ruffles at the lower edges, usually made of light or white materials with small designs (calicoes). The Pima and the Mohave women dressed differently. The Pima at first bought yardage to wind around their waists sarong-fashion. Later they, too, made full skirts. The materials they bought were dyed in crude colors, and the

[1] Milton Bradley's *Studio Book of Colored Papers* (Springfield, Massachusetts). Each of the 24 hues appears in five value steps: two tints, middle value, and two shades. Since many of the Bradley papers are too bright, it was necessary to find some examples among duller papers.

9: O'Neale & Dolores E, I-4 (no date) 1943
NU28 Papago NU28



When a Papago is a little lighter than the others, his complexion may be spoken of as white, not implying mixed blood, but only that his skin color by contrast with the usual dark skin is relatively light.

*toha* is also used to describe the change in appearance due to terror or panic:

*alih eto'*TESI'TE'KE *sih tohah*

(The) child being frightened very much became white.

In such instances, the word is not used literally, but signifies that the skin color is unnatural.

The rain clouds in the east are white clouds, *siotah iceva'*KI.

*Black. cahsicu'*KE, almost black; *icu'*KE, black; *sihsicu'*KE, very black. The blackest paint (*icu'*KE) used by the Papago is made by rubbing a black rock on a harder rock. As with white, the designations are used to express relative degrees of darkness, but not necessarily the total absence of color. A very dark greenish-brown object was chosen to identify *cahsicu'*KE. The hair of a young girl is *sicu'*KE, but any of the three degrees of blackness may be used to describe the color of horses.

There is no single Papago word for glossy, a surface appearance which seems to render blacks even blacker. A comparable meaning is conveyed by a phrase in which the horse is said to be *sva'ṭe'kame'swe'*KI (wet red) or *sva'ṭe'kame'sicu'*KE (wet black). *vaṭ'*KE, wet, combined with the color name indicates that the color shines or glistens as when a horse is coming out of the water.

Tucson, Arizona, takes its name from the Papago phrase *icu'*KE *con*, black bottom. In times of high water there was once a small lake at the foot of the little peak west of the city. Rubbish washed down the sides, got caught in the lake, and decayed there. As the water gradually dried up, the black bottom was exposed.

*Muddy. cahsepitema'*KI, almost muddy color; *pi'tema'*KI, muddy color; *sihsepitema'*KI, very muddy color; *sicu'kema spi'tema'*KI, very dark muddy color. The raw clay used for making pottery is *pi'*T, although properly speaking *pi'*T is mud.

Muddy color must be interpreted with regard for its meaning in the sentence. The phrase "muddy-colored horse" may mean that its color is *spi'tema'*KI, or the phrase may mean that mud covers the horse giving it a temporary coloring. This difference in meaning is unmistakable to the Papago.

The rain clouds in the south are muddy clouds, *spi'tema'*KI *iceva'*KI.

*Gray. cahkoma'*KI, almost gray; *koma'*KI, gray; *sihkoma'*KI, very gray; *siceṭe'kime skoma'*KI, gray-with-some-green-in-it (greenish-gray); and *smohta'*KI, the gray of hair. The earth, the sky, the ocean, and the distant mountains are spoken of either as *skoma'*KI (gray) or *siceta'*KI (green). One mountain is named Gray mountain, *koma'hi to'a'*KE, and an old place, now a village, is

9: O'Neale & Dolores E. 1-4 (no date) 1943
NU28 Papago NU28



*ipaki* color (corresponds to our purple-red). *caksipaims'*KI, almost *ipaki* color; *ipaims'*KI, *ipaki* color; *siksipaima'*KI, very much *ipaki* color. *ipaki* is the name of the prickly pear plant, as well as of its fruit. *mak* is the verb to give. The combination means to give the color of the fruit to something. *ipaki* is similar to dark cerise or crimson.

The juice of the *ipaki* fruit, which appears somewhat lighter when dry, is one of the most easily obtained paints for coloring the feathers on arrows. In addition to its availability, the juice can be used just as found.

*Color designations of Spanish origin used by the Papago.*— The group of color terms in this section are generally applied to the animals which were brought in by the Conquerors. Determining clear meanings for these adopted words has not been a simple matter, nor can the authors be certain that they always have had the same ideas in mind. Comparable difficulties are encountered in attempts to differentiate the characteristic appearance of surfaces to which the English words flecked, pied, mottled, splotched, or dappled are applicable.

Some of the Papago-Spanish equivalents are obvious.[4] It is essential to recognise that *l* and *r* are frequently confused, and that *b* and *v* are interchangeable, especially in phonetic spellings.

The following compilation of terms includes those in common usage among the Papago:

*alikosi*, sorrel. (Sp., *alazan*, sorrel-colored.) Applied to horses.

*kanilak*, roan. (Sp., *acanelado*, cinnamon-colored. If the unaccented initial vowel and the intervocalic *d* are dropped, the equivalence seems clear.) Applied to horses.

*liksintak*. (Sp., *retintado* (?), retinted.) If two colors are evident, but one of them has the appearance of having been painted over the other, the effect is called *liksintak*. Applied to horses. When the color spots have more distinct outlines, the designation *pintak* describes the effect.

*pintak*. (Sp., *pintado*, painted, spotted, mottled.) To the Papago, this word means two colors, but it is necessary to mention which two, since no indication is contained in the word itself.

*savinak*. (Sp., *sabino*, a mixed white and chestnut color. Applied to horses and mules.) The Papago apply this term to a dappled buckskin horse.

*su'kalaktak*, one of the browns. (Sp., *chocolate*.) Applied to dogs.

*saliksak*. (Sp., *barcino* (?), ruddy, approaching redness. A word regularly applied to cows, bulls, dogs, etc.) As the Papago apply this word to cows it does not mean a single color, but a mixture of colors which produces a spotty effect. *saliksak* is always used in combination with some color name indicating that that color predominates, or is most noticeable. *saliksak* is similar to our mottled, a word which in itself only describes an appearance, and one which requires a phrase "with green," "with

[4] The authors are indebted to Professor Beatrice Cornish of the Spanish Department, University of California, for helpful suggestions and aid in checking possible Spanish equivalents for Papago color terms.

12: Hill Y-5 (ca. 1940) 1942 NU28 Papa'go NU28



323 oughly. Taking a piece of the damp clay between the palms of her hands, the worker deftly rolls it into a coil just long enough to reach halfway around the top of the vessel. This is pinched into place with the wet hand. A similar coil completes the circuit. The anvil is now held in the left hand and supports the interior wall of the vessel, while the paddle rapidly strikes the exterior and smooths the coil into place. The upper edge is pinched off with the wet fingers until it is of an even height all the way around. After the addition of each completed coil, the piece is set aside to dry until it retains its shape.

When a sufficient number of coils has been added, the walls are sloped up with the handle of the paddle and the hands. The smoothing is done with a pebble dipped frequently in water. After the vessel has dried thoroughly in the sun, it is ready to be slipped. This slip is made by pouring off most of the water used for moistening the clay, dipping the hands, tools, etc., and applying to the vessel the fine wet sediment which remains in the bottom of the container.

A somewhat heavier slip is made from a very fine-grained red clay (or possibly shale, rather than clay) which apparently contains a high percentage of hematite. This material is obtained from the mountains near by, ground up, mixed with water, and applied with a piece of rag. In general, the thinner type is employed as a wash on ollas or on cooking pots which are subjected to heat, and the finer, thicker mixture on the others. After the application of the slip and a final polishing, the vessel is ready for firing.

A shallow pit is dug and exposed to the air and sun, usually for a day, to drive out all traces of moisture. Small branches and chips of mesquite are burned to form a layer of coals and ashes. On this are arranged pieces of tin to support the vessels. The latter are placed mouth downward upon the tin and covered with pieces of the same metal. Sticks of mesquite about a foot in length are stood up on end and rested against the tin, and the whole covered with chips and small branches. The firing process takes about 20 minutes, then the ashes are knocked off, the tin removed, and the vessels lifted out with two long sticks and set aside to cool. When they first emerge from the pit, they are a rich chocolate brown, but upon cooling, soon change to dull red. Probably prior to white contact, the pottery was fired in much the same manner as that practiced by the Pima. Possibly large fragments of broken ollas or jars took the place of the tin.

329 When the vessels have cooled sufficiently to permit handling, the black decoration is
● 336 applied. The paint for this is made by boiling down mesquite gum and chips of the wood. When finished, it is a thin brown liquid which is applied by means of small sharp-pointed sticks. The decorated vessel is then held in the heat and slowly revolved until the paint turns black and sets. This completes the process.

323 The olla or water jar appears to be the most-used article among the present-day
415 Papago. Many were observed beneath the ramadas of the houses, sometimes suspended
[352] from the cross-beams, sometimes placed in three-forked logs set upright in the ground. The majority of those now used are of a plain, unslipped earthenware in the natural color of the clay. Apparently a thin reddish wash is sometimes applied to the exterior.
[531] Several large storage ollas of a grayish or brownish buff, decorated in a brownish red and very suggestive of ancient Hohokam ware, were observed. Smaller black cooking pots with convex bottoms are still to be found. This black color is due to a deposition of soot from the fire, rather than to the natural color of the clay. Bowls and cups are likewise used at times. The writer was also shown several human figures, chiefly male,
[537] which had been made in neighboring villages.

# PLANTS AND ANIMALS USED AS SOURCES OF CLOTHING, ORNAMENT, AND COSMETICS

281 Ancient Papago clothing was of mule and Arizona
291 white-tailed deerskin (*Odocoileus hemionus* and *Odocoileus couesi*) and this skin clothing was one of the marks distinguishing Papago from Pima, since the latter wore cotton garments variously colored (18, 27). For the desert area which came to be called Papagueria the clothing varied from the buckskin loincloth to more elaborately made garments and mantles. The first observers found some "nude except for the women's white aprons of rabbit or deer skin" (18, pp. 216-230).

Living informants do not remember skin clothing in the loincloth and apron form, though in their childhood such garments made of cotton were still to be seen. From these and from tradition they describe the simplest skin garments.

Men wore a breechcloth, *atoca*, consisting of a soft strip of buckskin, tied around the waist, with another narrower strip passed between the legs and under the front and back of the belt; in its folds were arranged pockets in which tobacco could be carried. The upper part of the body was naked except in cold weather when a buckskin was thrown shawl-wise over the shoulders and tied with thongs. The rabbitskin (*Lepus* sp.) garments had disappeared, though rabbits were and are still plentiful. By degrees the buckskin shawl developed into a shirt with the coming of sewing, and eventually the shirt became an elaborate tailored
● [286] garment with a yoke, long sleeves, and fringed seams, the whole being dyed red from the root of *Krameria glandulosa*, and sometimes decorated with white chalk or an appliqué of white buckskin. While the old deerskin costume consisted of only shirt and loincloth, hunters who were rich in hides wore long deerskin leggings with fringed seams reaching to the hips. An informant of ninety reported that in her youth young dandies came to the dances in leggings of

291 the buckskin lacing. Another type of sandal is described as made of two thicknesses of deerskin dyed red and bound to-
[356] gether at the edge with white deerskin. The "rich" had buckskin moccasins to the knee.

415 Pouches were made for carrying tobacco, paints and
281 fetishes, the simplest being a round piece of dressed buck-
skin fringed all around the edge and tied up with a thong.
[356] All those made at present are of dyed buckskin (colored red
228 with dye from the root of *Krameria glandulosa)* made of two semi-circular pieces sewed together, with fringe around the
[354] seam and a flap fastened by a knot of thong serving as a button. Others were made of rabbit skin *(Lepus* sp.) or sometimes fox *(Vulpes fulvus)* with the fur left on.

291 No headdress was ordinarily worn, although warriors
292 had various caps and ornaments. The *siwoṭ* was a single upright plume, stuck in a headband which might be woven or be merely a deerskin thong. The *pitcpoṭ* was a row of feathers around the head like a crown thrust under a buck-skin band. A more elaborate bonnet was the *acki wonam* —a buckskin cap with upright feathers sewed closely all over it with an especially high tuft on the top. There is also mention of a cap of peccary skin *(Pecari angulatus)*
[237] fitting closely to the head with upright eagle *(Aquila chrysaetos)* or hawk feathers (because they are the best fighters) sewed around its edge and a mask of buckskin hanging over the face and tied around the neck. Warriors might also tie a bunch of eagledown to the hair at the top of the head, or some long feathers to the hair at the back.

302 Men wishing to keep their hair out of their eyes tied it
284 with a deerskin thong, or for gala occasions with a woven headband of red and white cotton. For war they tied it at the back of the neck with a deerskin thong, then twisted the mass into a short club wound about with deerskin, and this was specifically called the war knot. Women always wore their hair loose except for a thong or a twist of grass tied around the forehead while working. In racing they brought the whole mass of hair up over the forehead and back again,

17:Castetter & Underhill N,E-5 (1931-1934) 1935
NU28 Papago NU28



binding it with a strip of soapweed *(Yucca glauca)*. The hair was brushed with the combination brush and comb made of a bundle of aloe fibers *(Agave americana)*.

The Papago myths tell of Elder Brother wearing bright feathers, probably macaw *(Ara* sp.), and a Spanish account records:

> At San Xavier del Bac and neighboring rancherias there are many macaws which the Pimas raise because of the beautiful feathers of red and other colors, almost like those of the peacock, which they strip from these birds in the spring for their adornment (27, p. 129).

Both sexes wore necklaces and earrings and hunters particularly made handsome necklaces of deer teeth. Women were tattooed with vertical lines on the chin, a woman specialist doing the work for which she was paid a necklace or a basket of corn. Her piercing instrument was four sahuaro needles *(Carnegia gigantea)* tied in a row with a shred of yucca fiber *(Yucca glauca)*. She pinched up the skin between her forefinger and thumb and pierced it, and many patients had crooked lines because they winced. Into the holes she rubbed charcoal from a fire of creosote bush *(Covillea glutinosa)* which leaves a permanent greenish blue color. The ears of both sexes were pierced early in childhood with an ocotillo thorn *(Fouquieria splendens)*.

Paints were made from clay, charcoal, specular iron, and vegetable dyes, and since the upper part of the body was habitually naked it provided plenty of field for design. Vegetable dyes were rather rarely used and then only by women. Red dye was obtained from the root of *Krameria glandulosa* while the pollen of a reed (probably *Arundo donax*) provided a yellow dye. In daily life older men and women did not paint, but smeared deer grease over the body when necessary for warmth, as did hunters and warriors before going on an expedition.

The root of the soapweed *(Yucca glauca)* was dried, pulverized, and mixed with water to form suds for washing the hair.

17:Castetter & Underhill N.E-5 (1931-1934) 1935
NU28 Papago NU28



a whorl made of a section of sahuaro rib two inches wide and three or four long. The spinner placed the spindle tip in a depression in the ground then twirled the spindle clockwise with his right hand and fed the cotton with his left.

The loom was horizontal. The weaver placed upright in the ground four stakes of ironwood *(Olneya tesota)* or other hard wood so that they stood ten inches high. They formed a rectangle three feet wide and as long as the desired piece of cloth, generally about seven feet. Across the three-foot width the weaver fastened two cross-pieces, usually of sahuaro rib tied on with buckskin thongs. Across these the cotton warp was strung, passing under each bar and back over the top so that the strands formed a figure eight. This was the only shedding device used, for the weaving was all in one color. The batten was a length of sahuaro rib and the shuttle a short, smooth stick of creosote bush *(Covillea glutinosa)*.

Narrow belts, headbands, and cradle bands were woven on the same sort of loom but much narrower. These were plain red or red and white. The pattern was entirely in the warp where strands of cotton, dyed red with *Krameria glandulosa*, were arranged in the desired order. The weft was all white and used merely as a filler.

17:Castetter & Underhill N,E-5 (1931-1934) 1935
NU28 Papago NU28



## DRESSED SKINS

After removal from the animal, deerskins *(Odocoileus hemionus* and *O. couesi)* were dressed immediately; or, if this were not feasible, they were staked down in the sun to dry, then buried in a moistened hole dug in the earth until time to be dressed. 28

For dressing, the skin was first soaked in water over night and wrung to remove as much of the water as possible. It was then hung over the scraping pole for fleshing and dehairing. The scraper used for this purpose was a slightly curved rod of catclaw *(Acacia greggii)* about a foot long, set at each end in a short handle of split cactus rib *(Carnegia gigantea)*. At the time the deer was skinned its brain was removed and mixed with dry grass, then shaped like a pancake. This was baked in hot ashes just long enough to prevent it from decaying and to bring out the grease. To make the hide more pliable for the pulling and stretching process this cake was either rubbed on the dry hide or mixed with water and the hide washed in this liquid. After pulling and stretching the hide for a whole day, as a final step it was staked out with creosote bush stakes *(Covillea glutinosa)* on the clean sand of a wash and beaten with the flexible stems of catclaw, peeled of bark and thorns.

The skins of both species of deer mentioned, of antelope *(Antilocapra americana)* and mountain sheep *(Ovis mexicanus)* were all treated in this way. Wildcat *(Lynx ruffus)*, mountain lion *(Felis oregonensis hippolestes)* and coyote *(Canis lestes)* were scraped without dehairing or softening, and used for quivers.

All buckskin for clothes or pouches was colored a terra cotta red with dye from the roots of *Krameria glandulosa*, [31] which were peeled, cut into inch lengths, finely split and then boiled. It was poured over the hide rather than allowing it to soak since this would cause stiffening, and one quart of the decoction would dye two deerskins. After the dyeing the hide was wrung dry and softened again but without grease.

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237 half an inch at each end and laid in a slightly spiral direc-
411 tion on the shaft just behind the nock, and both bare ends of the quill were bound on with wet sinew. Either two or three feathers were used for war arrows.

41 Wooden-tipped arrows were made of wood of the creosote bush *(Covillea glutinosa)* or of the arrow bush *(Pluchea sericea)* and might be full length with the tip rubbed sharp on a stone and hardened in the fire; or they might have a shaft of reed or Spanish Bayonet *(Yucca elata)* for three quarters of their length. This made an exceedingly light arrow particularly desirable for birds.

411 Quivers are of comparatively recent invention. Some
415 were made from the skins of such animals as the mountain lion *(Felis oregonensis hippolestes)*, wildcat *(Lynx ruffus)* or coyote *(Canis lestes)* with the hair left on, the skin not being softened but sewed up while fresh and allowed to dry hard. The legs and tail were cut off (excepting the coyote whose tail was left for decoration) and the skin sewed up in rough bag shape. The head, from which the skull was removed, was left on and stuffed with grass so it would dry into the proper shape. The hollow head served as a hood over the arrows.

All these skins made small quivers and were used in hunting. For war, large quivers were made of antelope hide *(Antilocapra americana)*, and such hide was cut and sewed in the shape of a cylinder a foot in diameter. In some cases a fringe of dressed buckskin appeared down the vertical seam.

Particular individuals had their quivers made of dressed and softened hide, generally from the white-tailed
[53] deer *(Odocoileus couesi)* or antelope. These might have a fringe down the seam and a painted design of some brave animal on the back, the design being outlined with the secretion from the white brittlebush *(Encelia farinosa)*, then
[53] smeared over with red clay. Sometimes a yellow paint made from Spanish Bayonet flowers *(Yucca elata)*, ground to powder, was used. The quiver was slung by a strap two

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inches wide made of fox skin *(Vulpes fulvus)* with the hair left on to prevent chafing.

The Papagos at present say that certain of the bravest men fought with club and shield, and a club is mentioned for the "Pimas" in early Spanish accounts (10, 27). The club was of ironwood *(Olneya tesota)* about eighteen inches long, and informants say that it was merely a roughly shaped length of wood with a thong run through a perforation in the upper end so that it could be carried. The shield was a disk of leather sixteen inches in diameter made of cowhide or horsehide. Ownerless cows and horses have roamed the country ever since the coming of the first Spaniards, and the Papagos hunted these like deer.

The customary way of making the shield was to soak the hide in water, then cut out the disk and lay it on hot ashes to harden, stamping it into a slightly convex shape, two holes first being punched near the center about six inches apart. When dry a thong was laid along the outside of the shield, its two ends passing to the inside through these holes. On the inside was a short stick of wood with notched ends to which the thong ends were tied, forming a handle. When dry the shield was painted with mesquite "gum" *(Prosopis velutina)* prepared as for pots, or with red and white clay.

## FIRE

Fire was made with the palm drill; the heart of a cactus rib *(Carnegia gigantea)* was held with the feet while the drill of creosote bush wood *(Covillea glutinosa)* or arrow bush *(Pluchea sericea)* was revolved between the palms. A little sawdust from dry sahuaro rib caught the spark which was transferred to a pile of dry grass and manure.

## POTTERY, EATING AND DRINKING VESSELS

Although a few old pottery jars appear to have lines in red ochre at present all decorations are in black. This black is usually made from the secretion of the mesquite

17:Castetter & Underhill N.E-5 (1931-1934) 1935
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323 415 336 bush *(Prosopis velutina)*, which is scraped off in summer after the rains, made into balls and stored. When needed for use these balls are boiled in water, strained through a cloth, boiled again until syrupy, and applied with the tip [178] of a feather. The informants stated that the use of this substance was learned from the Maricopas.

323 In the making of pottery two paddles are used, usually of mesquite wood *(Prosopis velutina)*, one for the bottom and one for the sides of the jar. The one for the bottom is shaped like our butter paddles while the one used for the sides is shaped like a cleaver. Among the Papagos pottery is not coiled as is the case among the Pueblo Indians, but is always paddled into shape.

415 Drinking cups are usually made of gourds *(Lagenaria vulgaris)*, although small baskets might also be used. Gourd drinking cups are made of the gourd fruit cut in two longitudinally while fresh, the pulp and seeds removed and the hollow hemispherical halves then dried. A hole is punched in the shells and they are then strung on a man's belt with a buckskin thong. Often they are the only eating and drinking vessels on journeys.

Another vessel is furnished by the giant cactus *(Carnegia gigantea)*. When the surface of this plant is bruised such as by the pecking of woodpeckers the plant responds by covering the wound with a hard scar. This scarred area is sometimes rather large and deep, forming a natural cup-shaped structure which is used by the Papagos as a dish or a tobacco pouch. These dishes are eagerly collected and most households have an assortment of them.

Russell (22) refers to the Pima as obtaining small wooden trays and plates—circular, elliptical, and rectangular—from the Papagos. He also refers to the Papagos as making ladles of palo verde wood *(Parkinsonia microphylla)*. These are probably Mexican in origin.

## CEREMONIAL OBJECTS AND PRACTICES

The Papagos make a number of rather crude cere- 293
monial objects which ritual demands must be thrown away after each ceremony. Masks are made of half a gourd *(Lagenaria vulgaris)* tied with buckskin thongs and covering only the eyes and nose of the wearer. The face is crudely painted on it with clay, and small perforations made for seeing and breathing. A more valuable mask, kept from year to year, is that belonging to the hereditary clown. It is made of white buckskin, bag shaped, the closed end of which comes at the top of the wearer's head and the open fringed end to his shoulders. A small face is painted on it [336] ●
with blue soot from creosote bush wood *(Covillea glutinosa)*.

The body is often ceremonially marked with clay col- 336
ored yellow with a decoction of dandelion flowers *(Taraxa-* 362
*cum officinale)*.

Fetishes were made on various occasions: for the *vikita* 778
or harvest festival, for the *te'ikona*, or visiting dance, when 796
a visiting village entertained its hosts before racing with them; and for a ceremony to insure the growth of wild crops. These effigies were usually made to illustrate the content of a dream. For the *vikita* there were hereditary dream singers who every four years produced a new series of songs and ordered the making of some object to illustrate them. There was a standard range of subjects, including clouds, deer, corn, squash, mountains, and sea birds, though an inventive author sometimes provided a new subject like a mythical monster.

Very little material was available for these structures 549
but they showed considerable extempore invention. A 532
framework was made of ocotillo rods *(Fouquiéria splendens)* tied together with thongs, and on this could be draped white buckskins to represent clouds, or reddish dyed ones for mountains. The facsimiles were mounted on a wicker frame of sahuaro ribs *(Carnegia gigantea)*. Large white birds were made on a skeleton of ocotillo ribs covered with raw cotton. Squash effigies were contrived from ocotillo

349 and dyed buckskin, corn of ocotillo rods painted with dots,
532 and with soapweed leaves *(Yucca glauca)* attached to represent corn leaves. The same range of subjects was used to illustrate the visiting dance.

The effigies used for the wild crops represented sahuaro and prickly pear fruit *(Opuntia* sp.) and might be of red clay or of red ocotillo blossoms. An effigy mesquite bean was made of a twig (19).

293 Prayer sticks were made of catclaw *(Acacia greggii)*
778 upon which was tied eagle down *(Aquila chrysaetos)*, except for a special harvest ceremony at Quitovac in Sonora where it was "given" the people by Elder Brother to use turkey feathers *(Meleagris gallopavo merriami)*. Some prayer
[538] sticks were colored blue with soot from a fire of creosote bush *(Covillea glutinosa)*, the colored stick representing growing corn, the turkey feather the leaves (19).

Dancers at the harvest ceremony carried wands five feet long with bunches of eagle tail feathers at each end and in the middle. Individuals who had had curing dreams
[532] sometimes made fetishes to represent the animals which had taught them. Thus the horned toad *(Phrynosoma coronatum)* was often carved out of wood.

532 An enemy slayer had made for him an effigy of an Apache, using the hairs he had taken from the slain man's temples. The slayer's guardian if skillful contrived a doll of buckskin dressed in Apache costume and wearing the hair.

783 Tobacco smoke *(Nicotiana trigonophylla* and *N. taba-*
276 *cum)* was regarded by the Papagos as a purifying agent. The medicine man, while singing over a patient to "see" the cause of disease, paused regularly to smoke and blew the smoke over the patient as a means of cleansing.

The man who had come into contact with the supernatural by killing an enemy or an eagle, or by joining the salt pilgrimage, had to be purified by a period of segregation and fasting. When this period was ended, older men who had been through the same experience, sang a series of